



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/555,140 Confirmation No. : 3885
First Named Inventor : Gunnar-Marcel KLEIN
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Examiner : Matthew SAVAGE

Docket No. : 178/48916
Customer No. : 23911

Title : Filter Element

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

On January 7, 2005, Appellants appealed to the Board of Patent Appeals from the final rejection of Claims 13, 15-22, 35 and 36. The following is Appellants' Appeal Brief submitted pursuant to 37 C.F.R. §41.37.

Applicants hereby request that the period to take action in the above-captioned application be extended by five months pursuant to the provisions of 37 C.F.R. 1.136(a). A check which includes the amount of \$2,160.00 is submitted herewith in payment of the required extension fee. This amount is believed to be correct, however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 05-1323 (Docket No. #037141.48916US).

Real Party in Interest

This application is assigned to Mann & Hummel GmbH of Ludwigsburg, Germany, which is the real party in interest in this appeal.

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Related Appeals and Interferences

Applicants and their counsel are not aware of any related appeals or interferences which would affect, be affected by, or have a bearing on the instant appeal.

Status of Claims

Claims 13, 15-22, and 25-36 are pending. Claims 13, 15-22, 35 and 36 are under examination, and Claims 25-34 are withdrawn. Claims 13, 15-22, 35 and 36 are finally rejected and form the subject of this appeal.

Status of Amendments

Applicants are filing an Amendment on even date to amend the specification to overcome the objection to the specification.

Summary of Claimed Subject Matter

The claimed invention is a filter element composed of a plurality of filter medium layers of successively increasing degree of separation and decreasing storage capacity commencing with an inflow layer and ending with discharge layer. The inflow layer is comprised of a melt-blown nonwoven web with a weight per unit area of about 15 to 150 g/m² or of a predominantly cellulose-containing filter paper with a weight per unit area of 50 to 200 g/m². The nonwoven web is made from synthetic fibers with a diameter of about 2 μ m or less. The discharge layer is a predominantly cellulose containing compressed filter paper, and has a weight per unit area of about 50 to 200 g/m² or of at least about 50 g/m².

The filter element may also include an intermediate filter layer between the inflow and discharge layers. The intermediate filter layer includes a compressed melt-blown nonwoven web made of synthetic fibers and has a weight

per unit area of 15 to 150 g/m². The inflow and intermediate layers have an increasing degree of separation and a decreasing storage capacity for particles to be filtered out from the fluid.

The filter layers may be star-folded and joined together by surface pressure during a folding process. They may also be welded together by ultrasound, or bonded together with powdered adhesive or with a hot melt impregnating agent.

The claimed invention provides enhanced filtration performance compared to comparably sized conventional filter media. Increased filter performance can be achieved by using melt-blown fibers of small diameter. Because such fine melt-blown fibers require support, it has been customary in the art to provide such filter layers with a stable support layer. This, however, wastes space and adversely affects filter performance since the support layers are relatively thick but have no filter functionality; they only serve as supports. Increased performance is also achieved by using successive layers which become progressively finer in the direction of flow.

The claimed invention breaks new ground by using a predominantly cellulose-containing compressed filter paper having a weight per unit area of at least about 50 g/m² as the discharge layer. The compressed cellulosic paper serves both as a support (which is needed, e.g., for pleating and for mechanical stability) and as final fine filteractive layer. (See the paragraph bridging pages 2 and 3 of the instant specification.) The combination of a melt-blown initial filter layer, which has a lower filtration efficiency but a higher dirt holding capacity, and a final compressed cellulosic fine filter layer which has a high filtration efficiency, produces a filter element of enhanced effectiveness in which the entire thickness is filteractive.

The filter material of the invention has become commercially available under the trade name Mann & Hummel MULTIGRADE_F and has been very

successful in the marketplace. Because of its enhanced filter performance it has captured a rapidly increasing share of the OEM market and has to a great extent supplanted competitive materials from other manufacturers. Imitations have appeared.

Grounds of Rejection to Be Reviewed on Appeal

1. The specification was objected to under 37 CFR 1.75(d)(1) and MPEP 608.01(o) as failing to provide proper antecedent basis for the claimed subject matter.

2. Claim 36 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

3. Claims 13, 15-22, 35, and 36 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 13, 15-17, 21, 35, and 36 were rejected under 35 U.S.C. §103(b) as being unpatentable over *Kadoya* (US 4,976,858) in view of *Sabee* (US 4,910,064) or *Togashi et al.* (JP 6-198,108).

5. Claims 18-20 were rejected under 35 U.S.C. §103(b) as being unpatentable over *Kadoya* in view of *Sabee* or *Togashi et al.*, and further in view of alleged Applicant's admission in the Appeal Brief filed on November 22, 2002.

6. Claim 22 was rejected under 35 U.S.C. §103(b) as being unpatentable over *Kadoya* in view of *Sabee* or *Togashi et al.*, and further in view of *Klimmek et al.* (EP 338,479).

Argument

The objection to the specification is improper, because the specification provides proper antecedent basis for the term "predominantly"

The Examiner objected to the specification as failing to provide proper antecedent basis for the term “predominantly” as recited in Claim 13. He contended that the common dictionary definition of the word “predominantly” conflicts with the teaching of “50%” in the specification (see page 6, lines 4-6, of the Office Action dated October 15, 2004). However, the Examiner did not provide a dictionary definition of the word “predominantly” or any explanation why the word’s common dictionary definition conflicts with the teaching of “50%.”

(Although the Examiner *objected* to the specification, the reason for the objection does not seem to necessarily relate to formality. Therefore, Applicants has decided to address the objection in this Appeal Brief to ensure all substantive issues are brought before the Board.)

Claim 13 calls for a discharge layer that “is comprised of a predominantly cellulose-containing pre-compressed filter paper....” The *American Heritage College Dictionary* defines the word “predominant” as “most common or conspicuous.” *American College Heritage Dictionary*, 1078 (1997). Under this definition, a predominantly cellulose-containing filter paper is one whose “most common” ingredient is cellulose.

The specification states that “[t]he cellulose-containing filter papers can [] have a foreign substance content of up to 50%...” (page 3, lines 19-21). In other words, the cellulose content of the cellulose-containing filter paper is 50% or more. This means that the filter paper contains more cellulose than any other ingredient. Even when the filter paper contains only 50% cellulose, another ingredient must be less 50% because the filter paper inevitably contains a certain amount of impurities. Therefore, cellulose must be the “most common” ingredient because the filter paper always contains more cellulose than any other ingredient.

In view of the above discussion, the objection is improper because the word “predominantly” as used in Claim 13 is consistent with the specification’s disclosure of 50% or more cellulose (or up to 50% of foreign substance content).

Claim 36 was improperly rejected under 35 U.S.C. §112, first paragraph, because the claimed subject matter is sufficiently described in the specification

Claim 36 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. According to the Examiner, the limitation of the discharge layer having a weight per unit area of “at least about 50 g/m²” includes values above 200 g/m² and is considered new matter.

Claim 36 was added to recite subject matter which was not claimed in Claim 13. Specifically, while Claim 13 was narrowly drawn to a preferred embodiment’s cellulose-containing compressed filter paper weight, Claim 36 removed Claim 13’s upper weight range limit. Claim 36 is well supported in the written description, which discusses the advantages of high weight-per-unit-area filter paper, without specific numeric limits (it being well-known in the art such papers can be produced with a surface weight of 500 g/m² or more), and then describes *as an example of an advantageous embodiment*, a filter with a filter paper surface weight in the range of 50-200 g/m². Compare, e.g., specification at page 2, line 16, to page 3, line 11; page 4, lines 9-16; page 4, line 24, to page 5, line 2; page 5, lines 16-24 (describing the advantages of combining upstream melt-blown materials with increasingly finer-filtering cellulose-containing paper filter material on an outlet side of the filter element, the advantages if using of higher density, compressed cellulose papers (*i.e.*, the denser the outlet filter paper portion the better), and the advantage of being able to tailor the filter material characteristics to match the fluid to be filtered, *e.g.*, by increasing the filter fineness of the outlet layer if needed by increasing size/amount of cellulose fibers on (and hence weight of) the filter paper – all without use of numeric limitations); with *id.* at page 4, lines 17-23; page 6, lines 15-20 (describing a

particular embodiment in which the surface weight of the filter paper has been tailored for the specific application to be between 50-200 g/m²). Thus, the specification discloses generally the use of increasing weight density outlet layer cellulose-containing filter paper, without limitation, in addition to the range set forth in the specific embodiment.

Applicants further note that the present rejection is tantamount to requiring Applicants to limit their claims to *only* the specific embodiments disclosed in the specification, *i.e.*, importing limitations from the specification into the claims. Limitation of the claims to the specific numeric range of the specific embodiment is not appropriate here, where Applicants have included sufficient material in the written description for one of ordinary skill in the art to recognize the present invention from the description,

Applicants respectfully submit that in view of the general teachings of the present specification, supplemented by the specific embodiment descriptions, the Examiner has not met the burden to establish by a preponderance of the evidence that “a person skilled in the art would not recognize in an applicant’s disclosure a description of the invention defined by the claims.” MPEP §2163.04 (citing *In re Wertheim*, 541 F.2d 257, 263 (CCPA 1976)).

Claims 13, 15-22, 35, and 36 were improperly rejected as being indefinite, because the Examiner used an incorrect legal standard

Claims 13, 15-22, 35, and 36 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner contended that with respect to Claims 13 and 35 it is unclear as to what range the term “about” implies. He further contended that with respect to Claim 36 it is unclear as to what range the term “least about” implies.

The rejections are improper because the Examiner used an incorrect legal standard for indefiniteness. The Examiner concluded the terms “about” and “at least about” were indefinite on the ground that Applicants had not specified the associated ranges in the specification (see the Office Action dated October 15, 2004, page 6, lines 18 and 19). However, the Examiner cited no legal authority for the proposition that if an associated range is not specified in the specification, the term “about” or “at least about” is indefinite.

Applicants’ counsel has reviewed several Federal Circuit decisions, in which the definiteness of the term “about” was decided. The term was held definite in all but one decision. In the decisions, in which the term was held definite, the Federal Circuit did not base its decisions on whether an associated range was specified in the specification. See, e.g., *BJ Services Co. v. Halliburton Energy Services, Inc.*, 338 F.3d 1368, 67 USPQ2d 1692 (Fed. Cir. 2003); *Chemical Separation Technology Inc. v. United States*, 63 USPQ2d 1114 (Fed. Cir. 2002); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

In the only decision where the term “about” was held indefinite, *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991), the Federal Circuit held that the term “about” is indefinite if two conditions are satisfied: (1) there is close prior art and (2) nothing in the specification or prior art provides any indication as to what range of value is covered by “about.”

In *Amgen*, two claims originally included the limitation of a specific activity of “at least 120,000,” which was replaced later by “at least about 160,000” after the Examiner cited prior art disclosing a specific activity of 128,620. The district court found that the addition of the word “about” seemed to constitute an effort to recapture a mean activity somewhere between the previously-claimed value of 120,000 and the currently-claimed value of 160,000. Because the term “about” gives no hint as to which mean value between the prior art value of 128,620 and

the claimed value of 160,000 constitutes infringement, the district court held the term "at least about" to be invalid for indefiniteness. The Federal Circuit affirmed the district court's holding and noted that the holding was further supported by the fact that nothing in the specification, prosecution history, or prior art provides any indication as to what range of specific activity is covered by the term "about."

Therefore, there were two elements in *Amgen*. First, there was an attempt to use the term "about" to capture values between a claimed range limit and a prior art value. Second, there was nothing in the specification or prior art that provided any indication as to what values were captured by "about."

The Manual of Patent Examining Procedure (MPEP) agrees with Applicants' reading of *Amgen*. *MPEP* §2173.05(b) (8th ed. 2004). According to the *MPEP*, the *Amgen* court held that claims reciting "at least about" were invalid for indefiniteness where there was close prior art and there was nothing in the specification, prosecution history, or the prior art to provide any indication as to what range of specific activity is covered by the term "about." *Id.* In other words, in order for the term "at least about" to be indefinite, two conditions must be satisfied: (1) there is close prior art and (2) nothing in the specification or prior art provides any indication as to what range of value is covered by "about."

In the present case, the terms "about" and "at least about" are definite under an overwhelming majority of relevant Federal Circuit decisions. Even under *Amgen*, the Examiner has not established that the terms are indefinite. He contended only that Applicants had not specified the associated range in the specification, but failed to mention whether there was any attempt to use the term "about" to capture values between a claimed range limit and a prior art value.

Claims 13, 15-17, 21, 35, and 36 were improperly rejected as being unpatentable because the cited art does not disclose, either expressly or inherently, at least two limitations of the claimed invention

The Examiner rejects Claims 13, 15-19, 21, and 35 under 35 U.S.C. §103(a) as being unpatentable over *Kadoya* (US 4,976,858) in view of *Sabee* (US 4,910,064) or *Togashi et al.* (JP 6-198,108)

The Examiner's rejection is improper because the cited art does not disclose at least two limitations of independent Claim 13, 35, or 36: (1) inflow and discharge layers having a decreasing storage capacity in the flow direction and (2) the inflow layer having a weight per unit area (surface weight) of about 15 to 150 g/m².

With regard to the first limitation, the Examiner contended that *Kadoya* discloses an inflow layer (5) and a discharge layer (2), wherein the inflow and discharge layers (5, 2) have a decreasing storage capacity in the flow direction (column 3, lines 5-38). Applicants respectfully disagree.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The express, as well as the implicit and inherent, disclosures of a prior art reference may be relied upon in an obviousness rejection of claims. *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995). To establish inherency, the missing limitation must be *necessarily* present in the reference, and it would be so recognized by persons of ordinary skill in the art. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Inherency, however, may not be established by probabilities or possibilities. *Id.*

Kadoya discloses a filter medium that includes an upstream nonwoven fabric of a lower density and a downstream filter paper of a higher density, wherein the nonwoven fabric includes one or more layers (column 1, line 58, to column 2, line 11). It should be noted that the term "density" as used in *Kadoya* is defined as the "specific weight" (g/cm³), not in terms of "volume" (column 3, line 9).

The object of *Kadoya* is to provide a filter medium with an increased filtration efficiency and a long service life (column 1, lines 54-57). This object is achieved by trapping large particles on the entrance surface of the filter medium to promote the formation of a dust cake layer on the surface of the filter medium (column 6, lines 6-16). The dust cake layer prevents the particles from being embedded within the filter medium (column 6, lines 16-20).

Since his object is to form a dust cake layer on the surface of the filter medium to prevent the particles from being embedded within the filter medium, *Kadoya* does not appear to believe that it is necessary to define the storage capacities of the filter layers to achieve his object. Therefore, he neither expressly nor inherently discloses filter layers having a decreasing storage capacity in the direction of flow. *Kadoya* discloses only the thicknesses and specific weights (*i.e.*, “densities”) of the filter layers (2, 5) (column 2, line 65 to column 3, line 64). However, the storage capacities of the filter layers (2, 5) cannot be determined from only their thicknesses and specific weights. The specific weights of the filter materials must also be considered. For example, for a given specific weight and a given thickness of a filter layer, the storage capacity of the filter layer can be increased by using a filter material of a lower specific weight and decreased by using a filter material of a higher specific weight. The reason is that more filter material of a lower specific weight must be used to achieve the given specific weight of the filter layer, reducing the void space in the filter layer. On the other hand, less filter material of a higher specific weight is needed to achieve the same specific weight of the filter layer, increasing the void space in the filter layer.

In an attempt to establish that the filter layers of *Kadoya* have a decreasing storage capacity, the Examiner argued that the inflow layer (5) of *Kadoya* has a higher capacity to collect large particles than the discharge layer (2). (See the paragraph bridging pages 8 and 9 of the Office Action dated January 22, 2004.) This argument is both irrelevant and incorrect.

The argument is irrelevant because each of Claims 13, 35, and 36 recites “a decreasing storage capacity for *particles to be filtered out of said fluid*,” not a decreasing storage capacity for *large particles*. A filter layer having a higher storage capacity for *large particles* does not necessarily have a higher storage capacity for *particles to be filtered out of said fluid*.

The argument is also incorrect because *Kadoya* does not disclose that the inflow layer (5) has a higher capacity for collecting large particles. *Kadoya* merely discloses that the larger particles are trapped in the inflow layer (5) (column 2, lines 18-21; column 3, lines 22-25). However, this does not logically lead to the conclusion that the inflow layer (5) has a higher capacity for collecting large particles. It is possible that a discharge layer has a higher capacity for collecting large particles but does not collect any large particles because it is placed downstream of a fine inflow layer.

The Examiner also argued that the upstream layer in *Kadoya* has a larger storage capacity because it has a lower density, a larger thickness, and a larger pore. (See the paragraph bridging pages 8 and 9 of the Office Action of January 22, 2004.) Applicants respectfully disagree, because the storage capacity of a filter layer cannot be determined from these three parameters. In fact, a filter layer with a lower density, a larger thickness, and a larger pore size, does not necessarily have a higher storage capacity than a filter layer with a higher density, a smaller thickness, and a smaller pore size. As discussed previously, a filter layer with a lower specific weight and a larger thickness may have a smaller void space, if the specific weight of the filter material is sufficiently small. This is true even if the filter layer also has a larger pore size, because a filter layer with a smaller void space can have a larger pore size if it has sufficiently fewer pores.

Turning now to the second untaught limitation that the inflow layer has a weight per unit area (surface weight) of about 15 to 150 g/m², the Examiner

contended that *Kadoya* discloses an inflow layer (5) that has a surface weight within this range (column 3, lines 5-14 and 45-64).

In the Appeal Brief submitted November 18, 2002 and the Reply submitted on December 23, 2003, Applicants pointed out that *Kadoya* does not disclose an inflow layer that has a surface weight of 15 to 150 g/m². Applicants noted that the nonwoven fabric layer (5) shown in Figures 1 and 2 of *Kadoya* has a thickness of 1.2 mm and a density (specific weight) of 0.15 to 0.25 g/cm³, resulting in a surface weight of 180 to 300 g/m². In the embodiment shown in Figures 3 and 4, only the total thickness of the nonwoven fabric layers (5a and 5b) is disclosed. Because the thickness of each nonwoven fabric layer (5a or 5b) is not disclosed, the surface weight of each nonwoven fabric layer (5a or 5b) cannot be determined and, therefore, is not disclosed. For the same reason, the surface weight of the combined nonwoven fabric layers (5a and 5b) also cannot be determined and, therefore, is not disclosed.

In response, the Examiner claimed that the drawings clearly suggest that the thicknesses of the upper layer (5a) is one half of the total thickness of the nonwoven fabric (5a and 5b). Then he proceeded to compute the density (specific weight) of the upper layer (5a) to be 60-120 g/m². (See the second full paragraph on page 8 of the January 22, 2004 Office Action.)

Applicants respectfully submit that it is improper to measure the thicknesses (or relative thicknesses) of *Kadoya's* nonwoven fabric layers (5a and 5b) from Figures 3 and 4. It is well established that patent drawings may not be relied on to show particular sizes if the reference does not disclose that the drawings are to scale and is silent as to dimensions. *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000). In the present case, *Kadoya* does not disclose that the drawings are to scale and is silent as to dimensions. Therefore, the thicknesses of *Kadoya's* nonwoven fabric layers (5a and 5b) should not be measured from Figures 3 and 4.

In conclusion, the rejection of independent Claim 13, 35, or 36 is improper because the Examiner has not established that the cited art teaches at least two limitations of the independent claims. The rejection of Claims 15-17 and 21 is also improper because they depend from the independent claims.

There are additional reasons why the dependent claims are patentable. For example, Claim 15 (and thus Claim 16) calls for two filter layers, which are nonwoven webs made of synthetic fibers and have a decreasing storage capacity for particles to be filtered out from the fluid. The Examiner contended that Figures 3-6 of *Kadoya* show two nonwoven filter layers having a decreased storage capacity. Applicants respectfully disagree.

Figures 3-6 of *Kadoya* show three embodiments of filter media, each of which includes at least two nonwoven layers (5a, 5b, 5c). However, the most that *Kadoya* discloses about the nonwoven layers are the thicknesses and specific weights (column 3, lines 45-64). As discussed previously, the thickness and specific weight of a filter layer are insufficient to determine its storage capacity. Consequently, the storage capacities of *Kadoya's* nonwoven layers cannot be determined.

Claim 16 calls for an intermediate filter medium layer that comprises a *compressed* melt-blown nonwoven web having a *weight per unit area of 15 to 150 g/m²*. The Examiner contended that Figures 3-6 of *Kadoya* show such an intermediate filter medium layer (5b). Regarding the “compressed” limitation, the Examiner argued that this filter layer is compressed because it has a higher density than another filter layer (5a). The Examiner failed to address the limitation of “a weight per unit area in the range of 15 to 150 g/m².”

The rejection of Claim 16 is improper for at least the following two reasons. First, the fact that the alleged intermediate layer (5b) has a higher density does not inherently or necessarily lead to the conclusion that it is compressed. For example, it is possible to change the density of a filter layer during the

manufacturing process by varying the speed at which the filter fibers are blown onto the filter paper. Therefore, it is incorrect to conclusion that a filter layer with a higher density must have been compressed.

Second, since the Examiner failed to address the limitation of “a weight per unit area in the range of 15 to 150 g/m²,” he has failed to establish that the cited art discloses each and every limitation of Claim 16. Furthermore, for reasons discussed previously, the weight-per-unit-area (surface weight) of the alleged intermediate layer (5b) cannot be determined because *Kadoya* discloses only its specific weight (g/cm³) but not its thickness.

Claims 18-20 were improperly rejected under 35 U.S.C. §103(b) as being unpatentable over *Kadoya* in view of *Sabee* or *Togashi et al.*, and further in view of alleged Applicant's admission in the Appeal Brief filed on November 22, 2002

The rejection of Claims 18-20 is improper because the claims depend from patentable independent Claim 13. As discussed previously, the Examiner has not established that the cited art discloses each and every limitation of Claim 13. Accordingly, he has not established that the cited art discloses each and every limitation of Claims 18-20.

Claim 22 was improperly rejected under 35 U.S.C. §103(b) as being unpatentable over *Kadoya* in view of *Sabee* or *Togashi et al.*, and further in view of *Klimmek et al.* (EP 338,479)

The rejection of Claim 22 is improper because the claim depends indirectly from patentable independent Claim 13. As discussed previously, the Examiner has not established that the cited art discloses each and every limitation of Claim 13. Accordingly, he has not established that the cited art discloses each and every limitation of Claim 22.

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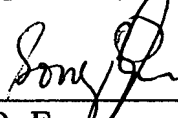
CONCLUSION

For the foregoing reasons, the objection and rejections, set forth above under "Grounds of Rejection to Be Reviewed on Appeal", are in error, and the Board is respectfully requested to reverse the objection and rejections.

This Appeal Brief is accompanied by a check in the amount of \$500.00 in payment of the required appeal fee. This amount is believed to be correct, however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 05-1323, Docket No.: 037141.48916US.

August 8, 2005

Respectfully submitted,



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Claims Appendix

The claims on appeal read as follows:

13. A filter element comprising a plurality of filter medium layers joined together such that a fluid to be filtered flows successively through the layers in a flow direction commencing with an inflow layer and ending with a discharge layer, wherein successive layers in said flow direction exhibit an increasing degree of separation and a decreasing storage capacity for particles to be filtered out of said fluid, and wherein said inflow layer is comprised of synthetic fibers of a melt-blown nonwoven web with a fiber diameter of about 2 μm or less and a weight per unit area of about 15 to 150 g/m^2 , and said discharge layer is comprised of a predominantly cellulose-containing pre-compressed filter paper having a weight per unit area of about 50 to 200 g/m^2 .

15. A filter element according to claim 13, wherein at least three filter medium layers are joined together; wherein the discharge layer is a predominantly cellulose-containing filter paper which serves primarily to stabilize the filter element; wherein all the other layers are nonwoven webs made of synthetic fibers, and wherein said other layers in the direction of flow through the filter successively exhibit an increased degree of separation and a decreased storage capacity for particles to be filtered out from the fluid flowing through the filter element.

16. A filter element according to claim 15, wherein an intermediate filter medium layer located between the inflow-side filter medium and the outflow-side filter medium comprises a compressed melt-blown nonwoven web having a weight per unit area of 15 to 150 g/m^2 .

17. A filter element according to claim 13, wherein the filter media joined together to form the filter element are star-folded.

18. A filter element according to claim 13, wherein the layers of filter medium are welded together by ultrasound.

19. A filter element according to claim 13, wherein the filter medium is folded to form pleats and wherein the layers of filter medium are joined together by surface pressure during a folding process.

20. A filter element according to claim 13, wherein the layers of filter medium are adhesively bonded together by gluing with powdered adhesive or with a hot melt impregnating agent.

21. A filter element according to claim 13, wherein at least one of the cellulose-containing filter layers includes up to but not including 50% of synthetic fibers.

22. A filter element according to claim 21, wherein said synthetic fibers are polyester fibers or glass fibers.

35. A filter element comprising a plurality of filter medium layers joined together such that a fluid to be filtered flows successively through the layers in a flow direction commencing with an inflow layer and ending with a discharge layer, wherein successive layers in said flow direction exhibit an increasing degree of separation and a decreasing storage capacity for particles to be filtered out of said fluid, and wherein said inflow layer is comprised of synthetic fibers of a melt-blown nonwoven web with a fiber diameter of about 2 μm or less and a weight per unit area of about 15 to 150 g/m^2 or of a predominantly cellulose-containing filter paper, with a weight per unit area of 50 to 200 g/m^2 , and said discharge layer is comprised of a predominantly cellulose-containing pre-compressed filter paper having a weight per unit area of about 50 to 200 g/m^2 .

36. A filter element comprising a plurality of filter medium layers joined together such that a fluid to be filtered flows successively through the layers in a flow direction commencing with an inflow layer and ending with a discharge layer, wherein successive layers in said flow direction exhibit an increasing degree of separation and a decreasing storage capacity for particles to be filtered out of said fluid, and wherein said inflow layer is comprised of synthetic fibers of a melt-blown nonwoven web with a fiber diameter of about 2 μm or less and a weight per unit area of about 15 to 150 g/m^2 , and said discharge layer is comprised of a predominantly cellulose-containing pre-compressed filter paper having a weight per unit area of at least about 50 g/m^2 .